

Deutsche Akkreditierungsstelle GmbH

Entrusted according to Section 8 subsection 1 AkkStelleG in connection with Section 1 subsection 1 AkkStelleGBV

Signatory to the Multilateral Agreements of EA, ILAC and IAF for Mutual Recognition

Accreditation



The Deutsche Akkreditierungsstelle GmbH attests that the testing laboratory

VDZ Service GmbH
Umweltmesstelle
Toulouser Allee 71, 40476 Düsseldorf

is competent under the terms of DIN EN ISO/IEC 17025:2018 to carry out tests in the following fields:

Determination of inorganic and organic gaseous or particulate airborne substances;
Special sampling of substances requiring additional effort for sampling or analysis (airborne polyhalogenated dibenzo-p-dioxins and dibenzofurans and dioxin-like PCBs); determination of combustion conditions;
Calibration and functional tests of continuously operating emission measuring equipment for inorganic and organic gas or particulate airborne substances; calibration and functional tests of continuously operating emission measuring equipment for inorganic and organic gas or particulate airborne substances in systems in accordance with 4. BImSchV, Annex column 1
Analytical determination of selected heavy metals in immission samples;
Immission control module

The accreditation certificate shall only apply in connection with the notice of accreditation of 20.05.2022 with the accreditation number D-PL-16069-01. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 8 pages.

Registration number of the certificate: **D-PL-16069-01-01**

Berlin,
20.05.2022

Dipl.-Ing. Gabriel Zrenner
Head of Department

Translation issued:
24.02.2023



Head of Department

The certificate together with the annex reflects the status as indicated by the date of issue.

The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at <https://www.dakks.de/en/accredited-bodies-search.html>.

This document is a translation. The definitive version is the original German accreditation certificate.

See notes overleaf.

Deutsche Akkreditierungsstelle GmbH

Office Berlin
Spittelmarkt 10
10117 Berlin

Office Frankfurt am Main
Europa-Allee 52
60327 Frankfurt am Main

Office Braunschweig
Bundesallee 100
38116 Braunschweig

The publication of extracts of the accreditation certificate is subject to the prior written approval by Deutsche Akkreditierungsstelle GmbH (DAkKS). Exempted is the unchanged form of separate disseminations of the cover sheet by the conformity assessment body mentioned overleaf.

No impression shall be made that the accreditation also extends to fields beyond the scope of accreditation attested by DAkKS.

The accreditation was granted pursuant to the Act on the Accreditation Body (AkkStelleG) and the Regulation (EC) No 765/2008 of the European Parliament and of the Council setting out the requirements for accreditation and market surveillance relating to the marketing of products. DAkKS is a signatory to the Multilateral Agreements for Mutual Recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Co-operation (ILAC). The signatories to these agreements recognise each other's accreditations.

The up-to-date state of membership can be retrieved from the following websites:

EA: www.european-accreditation.org

ILAC: www.ilac.org

IAF: www.iaf.nu

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-16069-01-01 according to DIN EN ISO/IEC 17025:2018

Valid from: 20.05.2022

Date of issue: 20.05.2022

Holder of certificate:

VDZ Service GmbH
Umweltmessstelle
Toulouser Allee 71, 40476 Düsseldorf

Tests in the fields:

Determination of inorganic and organic gaseous or particulate airborne substances;
Special sampling of substances requiring additional effort for sampling or analysis (airborne polyhalogenated dibenzo-p-dioxins and dibenzofurans and dioxin-like PCBs); determination of combustion conditions;
Calibration and functional tests of continuously operating emission measuring equipment for inorganic and organic gas or particulate airborne substances; calibration and functional tests of continuously operating emission measuring equipment for inorganic and organic gas or particulate airborne substances in systems in accordance with 4. BImSchV, Annex column 1;
Analytical determination of selected heavy metals in immission samples;
Immission control module

The testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates. The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of testing laboratories. Laboratories that conform to the requirements of this standard, operate generally in accordance with the principles of DIN EN ISO 9001.

The certificate together with the annex reflects the status as indicated by the date of issue. The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at <https://www.dakks.de/en/content/accredited-bodies-dakks>.

Abbreviations used: see last page

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This document is a translation. The definitive version is the original German annex to the accreditation certificate.

1. Determination of emissions in areas regulated by immission control law

**Measurement procedure as per immission control module and Annex A2 to VDI 4220
The fulfilment of the requirements of CEN/TS 15675:2007 is hereby confirmed**

**The requirements for emission measurements in accordance with DIN EN 15259:2008
(Measurement of stationary source emissions – Requirements for measurement sections and sites
and for the measurement objective, plan and report) are fulfilled.**

| Test area Group I.1: | Determination of emissions (air) §§ 26, 28 BImSchG and corresponding measurement tasks according to regulations for the implementation of the BImSchG | | |
|---|---|--|----------------------|
| Component | Standard / Guideline / Technical rule | SRM | Comments Location |
| General | Reference variables and exhaust gas boundary conditions | | |
| Water vapour | DIN EN 14790:2017-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Oxygen | DIN EN 14789:2017-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Volume flow | DIN EN ISO 16911-1:2013-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| ID P | Particulate compounds and chemical compounds adsorbed on | | |
| Total dust at low dust concentrations | DIN EN 13284-1:2018-02 VDI 2066 Bl.1:2006-11 | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | Düsseldorf |
| Substances contained in dust or compounds adsorbed on dust including fractions that can be filtered | | | |
| Arsenic (As) | DIN EN 14385:2004-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Cadmium (Cd) | DIN EN 14385:2004-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Nickel (Ni) | DIN EN 14385:2004-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Lead (Pb) | DIN EN 14385:2004-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Mercury (Hg) | DIN EN 13211:2001-06 und Korr. 1 2005-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| BaP | DIN EN 1948-1:2006-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| ID G | Gaseous inorganic and organic substances | | |
| NO _x | DIN EN 14792:2017-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| CO | DIN EN 15058:2017-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| SO _x | DIN EN 14791:2017-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| HCl | DIN EN 1911:2010-12 | <input checked="" type="checkbox"/> | Düsseldorf |
| HF | VDI 2470 Bl. 1:1975-10 | <input checked="" type="checkbox"/> | Düsseldorf |
| Total C (organic) | DIN EN 12619:2013-04 | <input checked="" type="checkbox"/> | Düsseldorf |

| Test area Group I.1: | Determination of emissions (air) §§ 26, 28 BImSchG and corresponding measurement tasks according to regulations for the implementation of the BImSchG | | |
|--|--|--|------------------------------|
| Component | Standard / Guideline / Technical rule | SRM | Comments Location |
| Aldehydes/ketones (e.g. formaldehyde) | VDI 3862 Bl. 2:2000-12 | <input checked="" type="checkbox"/> | Düsseldorf |
| Ammoniak (NH ₃) | DIN EN ISO 21877:2020-01 | <input checked="" type="checkbox"/> | Düsseldorf |
| PAH BTX | VDI 3874:2006-12 DIN CEN TS 13649:2015-03 | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | Düsseldorf |
| CH ₄ | DIN EN 25139:2011-08 | <input checked="" type="checkbox"/> | Düsseldorf |
| N ₂ O | VDI 2469 Bl. 1:2005-02 | <input type="checkbox"/> | Düsseldorf |
| Biogenic 14CO ₂ | DIN EN ISO 13833:2013-07 | <input type="checkbox"/> | Düsseldorf |
| Additional components within the scope of determining emissions | | | |
| SO ₃ | VDI 2462 Bl. 2:2011-11 | <input type="checkbox"/> | Düsseldorf |
| HBr | In-house method of the VDZ Service GmbH:2020-12 | <input type="checkbox"/> | Düsseldorf |
| Br ₂ and HBr | In-house method of the VDZ Service GmbH:2020-12 | <input type="checkbox"/> | Düsseldorf |
| SO ₂ continuous | VDI 2462 Bl. 4:1975-08 | <input type="checkbox"/> | Düsseldorf |
| NO _x aqueous | VDI 2456:2004-11 | <input type="checkbox"/> | Düsseldorf |
| NO _x continuous | VDI 2456 Bl. 9:1989-02 | <input type="checkbox"/> | Düsseldorf |
| O ₂ , CO, CO ₂ | ISO 12039:2019-10 | <input type="checkbox"/> | Düsseldorf |
| CO ₂ | DIN CEN/TS 17405:2020-11 | <input checked="" type="checkbox"/> | Düsseldorf |
| HF | DIN CEN/TS 17340:2021-01 | <input checked="" type="checkbox"/> | Düsseldorf |
| H ₂ S | VDI 3486 Bl. 2:1979-04 | <input type="checkbox"/> | Düsseldorf |
| Benzene | DIN EN 13649:2015-03 | <input checked="" type="checkbox"/> | Düsseldorf |
| Tetrachloroethene | DIN EN 13649:2015-03 | <input checked="" type="checkbox"/> | Düsseldorf |
| Toluene | DIN EN 13649:2015-03 | <input checked="" type="checkbox"/> | Düsseldorf |
| Xylenes | DIN EN 13649:2015-03 | <input checked="" type="checkbox"/> | Düsseldorf |
| Ethylbenzene | DIN EN 13649:2015-03 | <input checked="" type="checkbox"/> | Düsseldorf |
| C ₁ -C ₂ -compounds continuous | In-house method of the VDZ Service GmbH 2016-09 | <input type="checkbox"/> | Düsseldorf |

| Additional components within the scope of determining emissions | | | |
|--|---|-------------------------------------|------------|
| Phenols | In-house method of the VDZ Service GmbH 2020-12 | <input type="checkbox"/> | Düsseldorf |
| Formaldehyde | DIN CEN/TS 17638:2021-09 | <input checked="" type="checkbox"/> | Düsseldorf |
| Mercury (Hg) | DIN CEN/TS 17286:2019-07 | <input checked="" type="checkbox"/> | Düsseldorf |
| Chrome (Cr) | DIN EN 14385:2004-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Copper (Co) | DIN EN 14385:2004-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Kupfer (Cu) | DIN EN 14385:2004-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Manganese (Mn) | DIN EN 14385:2004-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Antimony (Sb) | DIN EN 14385:2004-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Thallium (Tl) | DIN EN 14385:2004-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Vanadium (V) | DIN EN 14385:2004-05 | <input checked="" type="checkbox"/> | Düsseldorf |
| Cd, Tl, As, Co, Ni, Se, Te, Sb, Pb, Cr, Cu, Mn, V, Sn, Be, Zn | VDI 3868 Bl.1:1994-12 | <input type="checkbox"/> | Düsseldorf |
| PM 10 and PM 2,5 | VDI 2066 Bl.10:2004-10 | <input type="checkbox"/> | Düsseldorf |
| ID Sp | Special sampling of substances that require special effort in sampling or analysis | | |
| Sampling procedure for determining the individual isomers of PCDD/PCDF | DIN EN 1948-1:2006-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| Sampling procedure for determining the individual isomers of PCB | DIN EN 1948-4:2006-06 | <input checked="" type="checkbox"/> | Düsseldorf |

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|---|---|-------------------------------------|------------------------------|
| Test area Group I.2: | Determination of emissions (air) according to No. I.1 and measurement tasks, which require special technical equipment and special experience of the competent personnel | | |
| Component | Standard / Guideline / Technical Rule | SRM | Comments Location |
| ID G | | | |
| Combustion chamber temperature measurement/determination of the residence time in the afterburning zone | BEP RdSchr. d. BMUB v. 23.1.2017 - IG I 2 - 45053/5 | <input checked="" type="checkbox"/> | Düsseldorf |

| | | | |
|---|---|-------------------------------------|------------------------------|
| Test area Group II.1: | Checking the correct installation and the function as well as calibration of continuously working emission measuring devices Checks and calibrations of measuring devices on systems that require technical equipment and knowledge and experience | | |
| Component | Standard / Guideline / Technical Rule | SRM | Comments Location |
| Mandatory procedures for P and G identifiers | | | |
| Exhaust velocity | DIN EN 16911-1:2013-06 DIN EN 16911-2:2013-06 DIN EN 14181:2015-02 VDI 3950 Bl. 1:2018-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| Volume flow rate | DIN EN 16911-1:2013-06 DIN EN 16911-2:2013-06 DIN EN 14181:2015-02 VDI 3950 Bl. 1:2018-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| Oxygen | DIN EN 14789:2017-05 DIN EN 14181:2015-02 VDI 3950 Bl. 1:2018-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| Water vapour | DIN EN 14790:2017-05 DIN EN 14181:2015-02 VDI 3950 Bl. 1:2018-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| Functionality test | DIN EN 14181:2015-02 VDI 3950 Bl. 1:2018-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| Leak detection | DIN EN 14181:2015-02 VDI 3950 Bl. 1:2018-06 | <input checked="" type="checkbox"/> | Düsseldorf |

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| Test area Group II.1: | Checking the correct installation and the function as well as calibration of continuously working emission measuring devices Checks and calibrations of measuring devices on systems that require technical equipment and knowledge and experience | | |
|--|---|-------------------------------------|------------------------------|
| Component | Standard / Guideline / Technical Rule | SRM | Comments Location |
| Testing of the device characteristic | DIN EN 14181:2015-02 VDI 3950 Bl. 1:2018-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| Checking the measurement registration, processing and transmission | DIN EN 14181:2015-02 VDI 3950 Bl. 1:2018-06 BEP RdSchr. d. BMUB v. 23.1.2017 - IG I 2 - 45053/5 | <input checked="" type="checkbox"/> | Düsseldorf |
| Determination of cross-sensitivity | DIN EN 14181:2015-02 VDI 3950 Bl. 1:2018-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| Determination of the response time | DIN EN 14181:2015-02 VDI 3950 Bl. 1:2018-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| Determination of the zero and reference point drift | DIN EN 14181:2015-02 VDI 3950 Bl. 1:2018-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| Determination of the calibration function | DIN EN 14181:2015-02 VDI 3950 Bl. 1:2018-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| Certificate of proper installation | VDI 3950 Bl.1:2018-06 | <input checked="" type="checkbox"/> | Düsseldorf |
| Dust Calibration | DIN EN 13284-2:2018-02 | <input checked="" type="checkbox"/> | Düsseldorf |
| Mercury Calibration | DIN EN 14884:2006-03 | <input checked="" type="checkbox"/> | Düsseldorf |
| Dust Alarm threshold setting | DIN EN 17389:2020-07 | <input checked="" type="checkbox"/> | Düsseldorf |

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|--|--|-------------------------------------|------------------------------|
| Test area Group II.2: | Checks and calibrations of emission measuring devices according to number II.1 and checks and calibrations of measuring devices on systems that require special technical equipment and special experience of the competent personnel | | |
| Component | Standard / Guideline / Technical Rule | SRM | Comments Location |
| ID G | | | |
| Calibration of combustion chamber temperature measuring devices | BEP RdSchr. d. BMUB v. 23.1.2017 - IG I 2 - 45053/5 | <input checked="" type="checkbox"/> | Düsseldorf |
| Functional testing of temperature sensors to monitor the minimum temperature | BEP RdSchr. d. BMUB v. 23.1.2017 - IG I 2 - 45053/5 In-house method of the VDZ Service GmbH:2021-02 | <input checked="" type="checkbox"/> | Düsseldorf |

2. Sampling and analytical determination of particulate immission samples and chemical compounds adsorbed thereon

| | |
|------------------------------|--|
| VDI 4320 Blatt 2 2012-01 | Measurement of atmospheric depositions – Determination of dust precipitation according to the Bergerhoff method |
| VDI 2267 Blatt 15 2005-11 | Determination of suspended matter in ambient air – Measurement of the mass concentration of Al, As, Ca, Cd, Co, Cr, Cu, K, Mn, Ni, Pb, Sb, V, Zn as part of dust precipitation by mass spectrometry (ICP-MS) |
| VDI 2267 Blatt 16 2007-07 | Determination of suspended matter in ambient air – Measurement of the mass concentration of As, Cd, Co, Cr, Cu, Ni, Pb, Sb, V and Zn as part of dust precipitation by atomic absorption spectrometry (AAS) |

The listed methods comply with the requirements of the
"Specialist customer certificate for determination in the area of immission control"
„LAI Fachmodul Immissionsschutz“ (durch den L/W/V aktualisierte Fassung vom 30.01.2018)

Competence is confirmed for the testing and technical areas of activity regulated by immission control law

Group I No.1: G, P, Sp; Group I No. 2G; Grou II No.1P, G; Group II No. 2 G

Abbreviations used:

| | |
|---------|--|
| BEP | Bundeseinheitliche Praxis bei der Überwachung der Emissionen (German federal uniform practice for the monitoring of emissions) |
| BImSchV | Federal Immission Control Ordinance |
| BMU | Bundesministerium für Umweltschutz (Federal Ministry for the Environment) |
| VDI | Verein Deutscher Ingenieure (Association of German Engineers) |